

The correspondence section is a public forum and, as such, is not peer-reviewed. EHP is not responsible for the accuracy, currency, or reliability of personal opinion expressed herein; it is the sole responsibility of the authors. EHP neither endorses nor disputes their published commentary.

Oil Sands Contaminants

doi:10.1289/ehp.1103746

In the article "Alberta's Oil Sands: Hard Evidence, Missing Data, New Promises," Weinhold (2011) misrepresented the findings of our Royal Society of Canada report (Gosselin et al. 2010) too often to recount fully here. Despite requesting my review of a draft, *EHP* chose not to correct many errors I identified, raising questions about *EHP*'s editorial bias on this matter. A few examples must suffice.

Apparently determined to find oil sands-related air quality problems beyond the odor issues we highlighted, Weinhold extracted data from our table summarizing 11 years of regional air quality monitoring data (Gosselin et al. 2010) to conclude:

PM_{2.5} exceedances at Fort McKay have been more than double those at the village of Anzac. ... As anecdotal evidence of potential particulate matter concerns, a panel commissioned by Environment Canada to evaluate the impacts of oil sands operations referred to the "ubiquitous dust" that was present during their site visits.

Weinhold failed to explain that the Fort McKay site exceeded the 24 hr objective for PM_{2.5} (30 µg/m³) only nine times in 11 years, compared with Anzac at four times in 11 years. The implication that Fort McKay is suffering from oil sands PM_{2.5} air pollution is inaccurate. Fort McKay is a rural northern community surrounded by oil sands surface mines, with local domestic combustion sources and occasional impact from regional forest fire smoke. Weinhold's attempt to validate his oil sands-related PM_{2.5} pollution case by referring to anecdotal comments about "ubiquitous dust" near Fort McKay reflects his ignorance about what PM_{2.5} measures, because it does not represent visible "dust."

Apparently searching for other air quality problems, Weinhold paraphrased our report to state: "There are more than 1,400 known pollutants emitted by oil sands operations." This was based on an inventory of all possible pollutants for developing air monitoring priorities. Weinhold neglected to include our next sentence: "The majority of the total mass emissions (98%) are made up of only fifteen compounds." But more important, any trace air contaminant expert can verify that thousands of pollutants can be found in any major urban area given sufficiently sensitive analytical techniques. No jurisdiction has air quality criteria for these countless trace substances. Weinhold's attempted revelation about oil sands contaminants being ignored lacks any meaningful air quality context.

Weinhold and *EHP* also chose not to correct his statements, which he directly attributed to our report:

Studies have found that many toxics ... can occur at higher concentrations downstream of oil sands operations than upstream (in some cases all the way to Lake Athabasca), and some of these are elevated enough to kill fish.

We advised *EHP* that we reported no evidence of higher levels of contaminants persisting to Lake Athabasca, nor did Weinhold's blanket statement about levels being elevated enough to kill fish accurately reflect our conclusions.

Another example of bias in the article appears in the caption of a photograph showing a Fort Chipewyan woman in a cemetery; the caption mentions our panel finding that evidence did not support a link between cancers in that community and oil sands contaminants, while noting that we recommended additional monitoring, but there is no mention that our additional monitoring proposal was made specifically to deal with community concerns. The caption continues: "That leaves this Fort Chipewyan woman still uncertain over what caused the lung cancer that killed her mother, husband, and 27-year-old nephew between 2006 and 2008." Using this emotive photo surely stoops below the standards of an unbiased scientific journal even if it had acknowledged the overwhelming cause of lung cancer. Readers need to know that extensive air quality monitoring in Fort Chipewyan has shown consistently excellent air quality, which has been verified by personal exposure studies. Regardless, it is crude sensationalism to imply that the personal tragedy depicted in this photo is relevant to cancer being caused by environmental contaminants.

Clearly, Weinhold is entitled to disagree with our panel's findings, particularly if he is writing an opinion piece. However, it is totally unacceptable for *EHP* to allow him to misinterpret extracts from our report and represent them in his article as if they were our findings. This is particularly egregious when the editors have been informed before publication of these misinterpretations.

In closing, I am compelled to forewarn any future national academy panel that may communicate with *EHP* having any expectation of it being an unbiased, objective scientific journal. *EHP* has behaved no better than agenda-driven commercial media that seek to spin their points of view regardless of the science.

The author declares that he has no actual or potential competing financial interests.

Steve E. Hrudey

Professor Emeritus
Analytical & Environmental
Toxicology Division
Faculty of Medicine & Dentistry
University of Alberta
Edmonton, Alberta, Canada
E-mail: steve.hrudey@ualberta.ca

REFERENCES

- Gosselin P, Hrudey SE, Naeth MA, Plourde A, Therrien R, Van Der Kraak G, Xu Z. 2010. Environmental and Health Impacts of Canada's Oil Sands Industry. Ottawa, Ontario, Canada: Royal Society of Canada. Available: http://www.rsc.ca/documents/RSCreportcompletesecured9Mb_Mar28_11.pdf [accessed 5 July 2011].
Weinhold B. 2011. Alberta's oil sands: hard evidence, missing data, new promises. *Environ Health Perspect* 119:A126–A131; doi:10.1289/ehp.119-a126 [Online 1 March 2011].

Oil Sands Contaminants: Editor's Response

doi:10.1289/ehp.1103746R

The article by Weinhold (2011) offered an overview of potential environmental and health issues related to oil sands operations and was never intended to be nor presented solely as a recapitulation of the Royal Society of Canada (RSC) report (Gosselin et al. 2010). Instead, it presented a discussion of the environmental health information in that report as well as the related significant source documents it reviewed.

The information presented by Weinhold (2011) went beyond the conclusions in the RSC report in order to highlight the data used to reach those conclusions. It also provided information from a number of other sources, which at times conflicted with the RSC's conclusions even as it agreed with details in the report.

Both the RSC report and other reports document a range of health and environmental concerns in the Alberta oil sands operations area and beyond. Weinhold's article (2011) reflected that evidence and included numerous qualifying statements stipulating that many unknowns remain. The fledgling evidence, combined with major gaps in existing environmental health science and the fact that very little of the expected oil sands development has occurred, suggest that significant additional adverse effects cannot be ruled out as development expands. Given these facts, it would have been irresponsible journalism for Weinhold to have given oil sands operations an essentially clean bill of health.

The photograph on p. A130 of Weinhold's article (2011) speaks to the reality that many citizens of Fort Chipewyan continue to be concerned about the possible effects of oil sands activity on their health